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Summary

- Master of Information Technology (AI) student at the University of New South Wales.
- Full-Stack Engineer with 2+ years of production experience.
- Hands-on experience integrating OpenAI and Claude APIs into production workflows.
- Focus on agentic reasoning, prompt engineering, and RAG pipelines.
- Proficient in TypeScript (Next.js, Node.js) and Python (FastAPI).
- Hackathons award winner: Founder's Choice at Hack2Heal & Cursor Curated Sydney Award.
- Strong advocate for Test-Driven Development (TDD), Pair Programming, and CI/CD pipelines.
- Built real-world applications, including: Qrent(over 3000 users), Atlassian project, an agent for ADHD

Relevant Experience

Qrent — Software Engineer

Feb 2025 – Present, Sydney

Description: A Housing Rental Platform <https://www.qrent.rent/>

Technologies: JavaScript, Next.js 15, React 19, Tailwind CSS v4, tRPC, Prisma, MySQL, Docker, pnpm Workspaces (Monorepo).

- Engineered a **Headless CMS** architecture by integrating the Notion API, enabling the marketing team to manage Blog content and Housing Guides directly without custom admin dashboards.
- Built end-to-end type-safe APIs using **tRPC**, ensuring complete type synchronization between the **Express** backend and the client, backed by a **MySQL** database.
- Integrated **Google Gemini** models to analyze rental property features and generate AI-assisted suitability scores based on user identity.
- Implemented an AI chat dialog using assistant-ui that generates cover letters and parent guarantee letters automatically.
- Developed a scalable full-stack web application within a **Monorepo** architecture, utilizing pnpm workspaces to share strictly typed **Prisma** schemas and utilities between frontend and backend packages.
- Leveraged **Next.js** 15 (App Router) and **React** 19 to build a high-performance frontend; implemented robust form validation using React Hook Form and **Zod** to ensure data integrity.
- Established a CI/CD pipeline via **GitHub Actions** for automated testing and **Docker**-based deployment, ensuring reliable delivery of new features.

ADHD Timebox Agent (AI Productivity Assistant)

Dec 2025

Description: A multi-agent system uses Timeboxing to help ADHD users plan and break down tasks, monitor execution in real-time, and provide motivational rewards

Technologies: Python, CrewAI, Google Gemini API, FastAPI

- Designed a multi-agent system (**FastAPI** + **CrewAI**) with four specialized agents to break down workflows, ensuring complex multi-turn tasks run smoothly and accurately
- Implemented a **Finite State Machine** with a **Session Locking** mechanism, to ensure atomic task execution and prevent context loss during multi-turn dialogues.
- Developed middleware to resolve LLM statelessness by dynamically loading persistent JSON data into prompts, enabling **long-term memory** and personalization.
- Created a distraction detector with **Python** and **osascript**: the agent checks the active window title against the current task to tell if the user is zoning out.
- Built a bidirectional sync engine that parses natural language commands into structured Timeboxes directly in the user's **Google Calendar**.

AI-Powered Rehab Platform (Hackathon Founder's Choice Award)

Nov 2025

Description: A peer support platform for physical therapy patients powered by AI

<https://heal.a2a.ing>

Technologies: Next.js 16, React 19, JavaScript, Gemini 2.5 Pro, Vercel Cron, Resend, Recharts, Tailwind CSS 4, next-intl.

- Championed an **AI-First Development Workflow**, leveraging **Agentic Coding Tools** (Claude/CodesX) to pair-program and accelerate iteration cycles, delivering a production-grade MVP in just **48 hours**.
- Engineered the "Active Care Engine", an automated pipeline triggered by **Vercel Cron Jobs** that utilizes **Gemini 2.5 Pro** to analyze 8 patient dimensions (e.g., adherence, pain trends, sentiment) daily.
- Implemented a risk-response system that automatically dispatches personalized intervention emails via **Resend** when the AI-calculated drop-off risk score exceeds a specific threshold (score ≥ 7).
- Developed an **AI Smart Matching algorithm** that evaluates users across 5 profile metrics (e.g., recovery stage, intensity) to recommend the Top-3 most compatible support groups to combat isolation.
- Delivered a fully globalized UI with **next-intl**, supporting dynamic routing across **10+ languages** (including Mandarin, Arabic, Vietnamese) to ensure inclusive access for Australia's diverse multicultural communities.

AI Whiteboard-to-Confluence Converter (Client Project: Atlassian)

May – Aug 2025

Description: An Atlassian Forge app that turns messy whiteboard notes into clean, structured Confluence pages

Technologies: Node.js, Express, Drizzle ORM, Upstash Redis, PostgreSQL, Vercel AI SDK, Zod, Docker, GitHub Actions, Vitest, Playwright.

- Engineered a type-safe backend API using **Node.js** and **Express**, utilizing **Drizzle ORM** for lightweight, high-performance SQL queries and **Upstash Redis** for caching AI responses and managing rate limits.
- Architected a multi-provider LLM orchestration layer integrating **OpenAI GPT-4o** and **Google Gemini** via **Vercel AI SDK**, implementing a model fallback mechanism across 12 endpoints with auto-retry to ensure 99%+ service continuity.
- Enforced strict data integrity and safety by integrating **Zod** for structured JSON output validation and a custom **Content Moderation System** (filtering 180+ keywords across 6 languages) to prevent hallucinated or inappropriate content.
- Implemented full-stack testing with Vitest (Unit/Integration) and Playwright (E2E) to automate regression checks.
- Led the development lifecycle as **Product Owner & Lead Developer**, managing the product backlog, conducting sprint reviews with **Atlassian stakeholders**, and delivering the MVP on schedule.

<https://unswaisoc.com/#/merch>, <https://t.unswaisoc.com/>

Technologies: Next.js, Python (FastAPI), PostgreSQL, MongoDB, Pydantic AI, Discord OAuth2, Tailwind CSS, Docker.

- Developed a Discord-integrated task management dashboard using **Next.js** and **FastAPI**, implementing **Discord OAuth2** to handle secure user authentication and role-based access control.
- Designed a hybrid database architecture for the merchandise store, utilizing **PostgreSQL** for transactional integrity and **MongoDB** for storing flexible, unstructured product attributes.
- Integrated **Pydantic AI** to validate and structure natural language inputs from Discord, automating the generation of meeting minutes and task assignments with strict schema enforcement.
- Collaborated closely with **UI/UX** designers to translate **Figma** prototypes into pixel-perfect, responsive interfaces using **React** and **Tailwind CSS**.
- Reduced administrative overhead by **20%** by automating the task allocation workflow, allowing society executives to focus on event planning rather than manual data entry.

Shanxi Chunfen Kechuang Investment Group Co. Ltd. — Software Engineer May 2022 – Oct 2023

Description: Internal Digital Transformation project for a large investment group.

Technologies: JavaScript (ES6+), Vue.js, Vuex, Node.js (Express), MySQL, Docker, Nginx.

- Digital Transformation: Developed a responsive **SPA** using Vue.js and Bootstrap, transforming manual employee engagement processes into an automated digital workflow.
- Backend & Database: Built RESTful APIs with **Node.js** and designed efficient **MySQL** schemas; **optimized SQL queries** to generate automated performance reports for HR.
- DevOps: Containerized services via **Docker** to ensure environment consistency, reducing deployment setup time by **40%**.

Education

UNSW Master of Information Technology (AI) Feb 2024 – Dec 2025

- WAM: 80/100
- Capstone project **92**, web-frontend-programing(**Top5%**), Artificial Intelligence Foundation(Top 5 %), Computer Vision, Machine learning

The North University of China, Bachelor of Software Engineering Sep 2017 – July 2021

- WAM: 85/100

Skills

Technical Skills

- **Full Stack:**Next.js 15, React 19, JavaScript, Node.js (Express), Python (FastAPI), Tailwind CSS, tRPC, Prisma, Drizzle, PostgreSQL, MySQL, MongoDB.
- **AI & Data:**Vercel AI SDK, OpenAI, Gemini, Pydantic AI, LangChain, Redis, Zod, RAG, AI Agent Workflows.
- **DevOps & Tools:**Docker, Monorepo, GitHub Actions, AWS EC2, Linux, Cloudflare, Jira, Agile/Scrum, CI/CD Pipelines.

Other Skills

- Product Ownership, Cross-functional Collaboration, Bilingual Communication.